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# WORKS OF THE INSTITUTE OF GEOGRAPHY OF THE ACADEMY OF SCIENCE USSR

IN 1958

Translation

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WORKS OF THE INSTITUTE OF GEOGRAPHY OF THE ACADEMY OF SCIENCES USSR IN 1958

Translation<sup>7</sup>

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The total volume of activity of the Institute of Geography of the Academy of Sciences of USSR in 1958 obtained a further significant expansion. This was manifested in the increase of the staff of scientific workers of the Institute, in the creation of three new departments (hydrology, limnology, and the geography of the USSR), in the expansion of scientific-research subjects and publishing activity. The bonds of scientific activity of the Institute of Geography with practical demands have continued to become stronger: the services of the workers of the Institute have been enlisted more widely than formerly, in committees and organs of the Gosplan of the USSR; there has been fulfilled a series of urgent tasks of governmental organs for dividing the territory of the USSR into districts for various practical purposes; there have been carried out, in a wider volume, works of a scientific-practical character together with various departments; the number of scientific publications has increased in various publications (a significant part of the works of the Institute was published by the State Publishing House of Geographic Literature). International scientific bonds of the Institute of Geography continued to be strengthened and reinforced.

The Institute of Geography based its practical activity upon the decisions of the XX Congress of the Communist Party of the Soviet Union, and also upon other party and governmental decisions, turning special attention to the accelerated development of all branches of the national economy, the creation of a powerful material base for the building of communism in our country, the more efficient and accelerated exploitation of the rich natural resources, in particular, of the eastern regions of the Soviet Union. Soviet geographic science, called upon to study the whole complex of local conditions, both natural and economic, must give special attention to scientific investigation of questions of proper specialization of the complexity in the development of the economy of economic regions of the country, a more rational use of their natural and labor resources for the purpose of increasing the productivity of social labor.

In 1958 the scientific-research activity of the Institute of Geography, just as in the preceding year, was determined by the following principal tasks.

1. The creation, on the basis of scientific generalization of accumulated materials, works of a geographic character both for the territory of the USSR, as well as for foreign countries.
2. The carrying out (chiefly in the eastern regions of our country) of complex geographic expeditionary research, directed to the study of natural resources and to the development of production forces of individual regions, in connection with the intensive economic exploitation of them, and the new large-scale construction on their territory.
3. The study of the dynamics of modern physical-geographic phenomena for the purpose of the development of scientific bases for the prognosis of elemental natural processes and directed transformation of natural conditions for raising the productivity of the territory. Special significance in the direction of scientific works of the Institute is attached to the development of research of the thermal and water system of the earth's surface, its role in the dynamics of natural processes and the arising of geographic variations, and also the determination of methods for its transformation for practical purposes. Namely in such a scientific direction the Institute of Geography conducted in 1958 research according to the program of the Third International Geophysical Year (in the section of glaciology and, partially, in the section of climatology).
4. The conducting of research of a paleogeographic character, which assumed the task of explaining the historic course of the development of the geographic environment and thus to obtain the key to the understanding of modern geographic regularities.
5. Scientific research in the field of the history of geographic sciences.

Conducting its research in these principal directions, the Institute of Geography obtained in 1958 a number of significant results.

There continued the preparation and publication, with the participation of the Academies of Sciences of the union republics and some universities, of monographs of a geographic character on union republics and principal economic regions of the RSFSR, on the geography of countries of people's democracy and on the geography of capitalist countries.

In previous years the Institute published 14 economic-geographic monographs on the territory of the USSR: the Kirghiz SSR, the Turkmen SSR, the Kazakh SSR, the Georgian SSR, the Armenian SSR, the Azerbayzhan SSR, the Lithuanian SSR, the Estonian SSR, the Moldavian SSR, the Karelian ASSR, the Crimea, Western Siberia, the Volga area, the Northern Caucasus. In 1958 there was published an important work concerning the Urals, and work was completed on monographs concerning Eastern Siberia and the Central regions of the European part of the USSR. There was published a large collective work on the physical geography of Central Asia; there were prepared for publication physical-geography issues on the Urals and the Far East; there continued the preparation of books on the physical geography of Western Siberia, Central Siberia, Yakutiya, Trans-Baykal'ye. According to the assignment of the Gosplan of the USSR, work was carried out for the economic-geographic division into districts of the USSR; in particular, there were prepared economic-geographic characteristics of seven large economic regions of the USSR. There was carried out the physical-geographic division into districts of the territory of the USSR for a number of scientific and practical purposes.

In 1958 there was completed the printing, in the Publishing House of the Academy of Sciences of the USSR, of a large work on the economic geography of Germany (the German Democratic Republic and the Federated German Republic), People's Republic of Poland; there was completed the preparation for printing of a collection of works on questions of economic geography of regions of the People's Republic of China.

For a number of years the Institute of Geography has participated in works of the Academy of Sciences of the People's Republic of Rumania and the People's Republic of Bulgaria, which prepare detailed geographic monographs in their countries. In 1958 these works were, on the whole, completed and in 1959 they will be published. There continued the participation of the Institute in the important expedition of the Academy of Sciences of the People's Republic of China, undertaken for the purpose of the geographic investigation of Sinkiang.

During previous years the Institute of Geography published eight books on the geography of capitalist countries: Ireland, Spain, Great Britain, Kashmir, Burma, the South of the USA, the geography of the industry of Italy, a collection of articles on the geography of the industry of USA. In 1958 four more books of the same type were published on: the North of the USA, Northern India, Western India, Algeria. Works were also published on: Belgium, Italy, Central India, Western Pakistan.

As formerly the Institute of Geography gave much attention to complex geographic research of regions of new economic exploitation, chiefly regions of Siberia and the Far East. In the composition of appropriate expeditions of the Council for the study of productive resources of the Academy of Sciences of the USSR there were completed physical-geographic and economic-geographic research in Krasnoyarsk kray, there was carried out geographic study of the Chitin oblast. In the composition of the complex expedition of the SOPS (Council for the Study of Productive Resources) of the Academy of Sciences of the USSR, the Institute continued, together with the scientists of the People's Republic of China, the physical-geographic study of the Amur basin. There was completed a study of the region of the Karakum Canal route in connection with the development of agriculture with irrigation and animal husbandry. A definitive report (text and charts) was prepared for publication. There continued geomorphological and paleogeographic research of the eastern part of the Bol'shezemel' tundra and the western slope of the Polar Urals, there was carried out a study of the geomorphology and the quaternary deposits of the valley of the Lena River. Some results of these works were transmitted in the form of materials (reports, charts, and others) to interested organizations, were reported on at various special conferences, were published in the form of articles.

Active participation was taken by the Institute of Geography in the work of the Conference on the development of the productive resources of Eastern Siberia in Irkutsk in August 1958. The workers of the Institute at this Conference and at its regional conferences gave nine papers on various questions of the physical and economic geography and the division into districts of Eastern Siberia.

Much attention was given by the Institute in 1958 to research of the thermal and water regime of the earth's surface, the study of the dynamics of recent physical-geographic phenomena. Significant theoretical as well as practical results were obtained in research in this direction.

As has been indicated above, within the limits of this scientific direction, the Institute of Geography has been carrying out its research according to the program of the Third International Geophysical Year. As is known, the Institute of Geography is the leading institution on all glaciological research, carried out by the Soviet Union according to the program of the International Geophysical Year. In 1958 the Institute carried out a whole complex of glaciological research at three arctic glaciological stations -- on Franz Josef Land (Guker Island, Tikhaya Bay), on Novaya Zemlya (Severnyy Island, the Russkaya Gavan' region) and at the Polar Urals (the Khodat Lake region); there were carried out heat-balance observations at the Zagorsk station ship in the Moscow area. The Institute also

carried out glaciological work according to the program of the International Geophysical Year at glaciological stations and in expeditions of other scientific institutions: thermometric work on the glaciers of the range Terskey-Alatau (with the Academy of Sciences of the Kirghiz SSR), glaciers of the Zailiysk Alatau (with the Academy of Sciences of the Kazakh SSR), glacial-geomorphological work in the region of the Suntar-Khayat station in the Yakutsk ASSR (with the Institute for the Study of Congelation of the Academy of Sciences of the USSR), participated in work of the glaciological detachment of the complex Antarctic expedition.

A catalogue was compiled of glaciers of regions of recent glaciation in the territory of the USSR; the development of themes has continued: the analysis of climate-forming processes for the purpose of developing a genetic classification of climates of the earth; the climate, expressed in weather for regions of glaciological research according to the program of the International Geophysical Year in the territory of the USSR. On both themes there have been prepared some materials and articles for publication. In 1958 the Institute started, in connection with research according to the program of the International Geophysical Year, the study of the course of many years of the general circulation of the atmosphere and the variations of the principal climatic elements in the extratropical latitudes of the Northern hemisphere, and the study of recent and ancient glaciation of the Caucasus.

In addition to this, the Institute participated in 1958 in the glaciological research of the Academy of Sciences of the People's Republic of China in Nan'-Shan'.

To the glaciological works carried out by the Institute are joined also its work on the theme "The Snow Cover and Its Role in the National Economy." On this theme in 1958 there was carried out field research on the study of the structure of the snow cover and the regularities of its distribution on Tyan'-Shan', in the El'brus region, in the Moscow area and in other regions. There has been published a collection "The Geography of the Snow Cover"; there has been organized and carried out, jointly with the West-Siberian branch of the Siberian department of the Academy of Sciences of the USSR, in Novosibirsk the third international conference for the study and use of snow. The conference ascertained the significant volume of research, carried out in the USSR, on the snow cover, the important development of the study of snow as an independent branch of knowledge, and the significant successes in the matter of the use of snow in the national economy. The conference organized a permanent coordinating committee and adopted the recommendation for the further development of research and the organization of work for the study of snow and the snow cover.

Studying the regulating effect of agricultural engineering measures upon the drainage in conditions of the rugged terrain of the forest zone, the Institute prepared and published the collection "Fluctuations and Changes of River Flow." There was continued the study of the thermal and water system of irrigated and non-irrigated territories, and of the zonal characteristics of this system. Field and laboratory research were carried out; reports and articles were prepared for publication.

For a number of years the Institute has been conducting a study of the processes of erosion. In 1958 there was completed a preliminary division into districts of the territory of the USSR on principal factors, which influence the development of erosion: climate, relief, soil and vegetation covers, agricultural use of the territory. Jointly with the Academy of Sciences of the People's Republic of China, the Institute of Geography conducted research of the processes of erosion in the region of the middle course of the Hwang Ho River, and worked out methods for combatting it. In 1958 this work was completed. Materials of the investigations were turned over to the Academy of Sciences of the People's Republic of China; a collection is being prepared on "Loess Country and Ordos."

In 1958 the Institute started the research of high waters in the territory of the USSR. A collection of articles "Problems of High Waters" was prepared and published; technical instructions for the estimation of high waters from melted snows were drawn up and turned over to the Interdepartmental Commission.

Since 1958 the Institute has also started the complex study and typification of lakes of the USSR on the water-heat balance. The purpose of this work lies in the clarification of the characteristics of the water-heat system of lakes in various natural zones of the USSR, and in the development of principles of typification of lakes on the basis of the elements of the water and heart balance. Expeditionary research was carried out, and reports were prepared.

For a number of years the Institute of Geography has been carrying out the study of tectonic movements of the earth's crust with the use of data of repeated leveling of great precision. After the publication of a collective work, prepared jointly with the Central Scientific-Research Institute of Geodesy, Aerial Surveying and Cartography, which gives the characteristics and the determination of the speed of vertical movements of the western half of the European territory of the USSR, in 1958 there was continued the study of recent tectonic movements in Western Siberia, after the example of the Caucasus, in the Volga area and in the piedmonts of the Caucasus.

The preparation of a large generalizing monograph "Flood Waters of the USSR" has been continued. In this work will be summed up the study of flood waters, and there will be given an analysis of the natural conditions of their origin in the principal regions of the USSR, which are subject to the flood danger. Workers of the Institute as well as an important group of workers of other institutions are participating in the preparation of the monograph.

Carrying out its research on questions of paleogeography and historical geography, the Institute continued work on the study of the history of the formation of river valleys of the USSR; on the study of paleogeography, geomorphology and stratigraphy of old glacial formations and post glacial deposits of the Russian plain; on the study of the paleogeography and chronology of post glacial deposits of the Russian plain. Periodic reports and a series of articles, based on this work, have been prepared for publication. In 1958 there was prepared for publication a work on the changes of the animal life in the forest zone and in the forest tundra of the USSR in connection with the economic activity of the human society.

Studying the history of geography in Russia from the most ancient times up to the present time, the Institute in 1958 prepared for publication a work "Outlines on the History of the Physical-Geographic Research of the USSR in 1917-1927." The preparation is being completed on the work "Outlines on the History of the Physical-Geographic Research of the Academy of Sciences of the USSR During the Period of the First Five Year Plan." There have been published articles on the scientific activity of the All-Union Geographic Congress (on the 25th anniversary since it had originally been convened) and on the activity of the Yakutsk expedition of the Academy of Sciences of the USSR in 1925-1930 in the field of physical geography.

Besides the already above-mentioned Coordinating Conference for the study and use of snow, the Institute of Geography in 1958 organized and conducted several important conferences, and participated in many conferences and meetings. The Institute organized and conducted a work conference for the study of recent tectonic movements on the territory of the USSR with the participation of representatives of a number of institutions of Moscow as well as institutions of other cities; a conference of Soviet glaciologists on questions, connected with the conducting of glaciological research according to the program of the International Geophysical Year. Jointly with the Geography Department of the Moscow State University there was conducted a conference on questions of geomorphology; it attracted more than 300 participants, who represented scientific institutions, higher educational institutions and industrial organizations of 25 important cities of the Soviet Union.

The Institute of Geography actively participated in the conference on questions of the study and use of resources of the Ukraine (in Kiev in January 1958), in the conference for the development of productive resources of Eastern Siberia (in Irkutsk, in August 1958), in the All-Union Conference on Questions of Applied Climatology in Leningrad, in the conference on game reservations, and in some others.

There continued to develop and become stronger the scientific bonds of the Institute of Geography and its workers with foreign scientific institutions and individual scientists. For a discussion of the results of the joint work with countries of people's democracy, the workers of the Institute went to Bucharest, Peking, Sophia. A series of conferences on these same questions was held in Moscow. The workers of the Institute participated in conferences and congresses in London, Helsinki, Shamon' in France and others. Active participation was taken by the Institute of Geography in the work of the V General Assembly of the International Geophysical Year and of the Meteorological Symposium, and in the work of the Plenum of the Permanent Committee of the International Geographic Society on national atlases, all of which occurred in Moscow in July and August 1958. Many articles of scientific workers of the Institute are published in foreign publications. A number of important works have been translated and published abroad.

The Report of the Director of the Institute Academician I. P. Gevassimov and the reports of scientific directors concerning problems of scientific-research and scientific-organizational activity of the Institute during the year were presented to the Scientific Council of the Institute of Geography at the end of December 1958. At these meetings, as well as at departmental meetings at which reports were presented, there was noted an increase of the volume of work of the Institute, a deepening of its theoretical research, a strengthening of the scientific bonds of the Institute both with the academies of sciences of the union republics, the branches and division of the Academy of Sciences of the USSR and the departmental institutions, as well as with foreign scientific geographic institutions, in particular with the academies of sciences of the countries of people's democracy. Simultaneously with this, in the discussion of the Report there were also noted serious deficiencies in the activity of the Institute: the inadequate development of economic-geographic work of a theoretical character; lack of correspondence to the problems of contemporary geographic research of the laboratory and experimental base of the Institute, which remained, as formerly, extremely weak, inspite of all the efforts of the Institute. The speakers made an appeal for the further intensification of the bonds of the Institute with departmental organizations, in particular with the activity of the Scientific-technical conferences of the Sovmarkhозes (Councils of the National Economy). There was noted the necessity for deepening the work of the

Institute in the preparation of geographic monographs. Proposals were introduced for the organization of work for the systematic taking stock and appraisal of the national resources in the territory of the USSR.

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